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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,080	11/25/2003	Katsuya Yoshida	108390-00057	4930
4372	7590	06/01/2005	EXAMINER	
ARENT FOX PLLC 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			HOANG, HUAN	
			ART UNIT	PAPER NUMBER
			2827	

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/720,080

Applicant(s)

YOSHIDA, KATSUYA

Examiner

Huan Hoang

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 9, 15, 16 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 3-8, 10-14 and 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>112503</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Specification***

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

The recitation "memory cells different from each other being connected to sad bit lines respectively;" (claim 1, lines 10-11) is not disclosed in the specification. In contrast, the specification discloses "the memory cells MC1, MC2, MC3 ... have the same configuration" on page 12, lines 24-25.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 15 and 16 recite each of the dummy memory cells and the memory cells has the same circuits that contradict the recitation of "dummy cells different from each other and memory cells different from each other" in claim 1.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ferris et al..

Ferris et al. discloses a semiconductor memory device having all the elements as recited in claims 1, 2 and 20 as follows:

a memory cell array having dummy bit lines (18 and 18a, Fig. 3) and bit lines (6 and 8, Fig. 3) adjacently disposed to each other, dummy memory cells different from each other (22a and 22b, Fig. 3 and column 5, line 68);

a timing control circuit (16, Fig. 3) controlling a timing of a driving operation (column 1, lines 59-67) based on signals supplied via the dummy bit lines, when selectively driving the memory cell connected to the bit line;

wherein, in the memory cell array, the dummy bit lines are adjacently disposed at positions closer to the timing control circuit than an arbitrary one of the bit lines (dummy bit lines 18 and 18a are closer to the timing circuit 16 than any of the bit lines, Fig. 3)

wherein the memory cell array has a dummy word line (30, Fig. 3) for selectively driving a dummy memory cell connected to the dummy bit lines and a word line (4, Fig. 3) for selectively driving a memory cell connected to the bit lines.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 9, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferris et al..

Ferris et al. discloses all the limitations of claim 8, 18 and 19 except for the memory array provided in plurality and the dummy bit lines being a plurality of dummy bit lines. However, Choi et al. discloses a plurality of memory subarrays and a plurality of dummy bit line pair to provide a memory device with high capacity. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a memory device having a plurality of arrays and a plurality of dummy bit lines in order to provide a memory device with high capacity.

***Allowable Subject Matter***

7. Claims 3-8, 10-14 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach or suggest the following limitations:

wherein, in the memory array, the dummy bit lines are adjacently disposed at positions more distant from the timing control circuit than an arbitrary one of the bit lines.

wherein, in the memory cell array, the dummy bit lines are adjacently disposed and the bit lines are disposed on both sides of the dummy bit lines adjacently disposed.

Wherein, in the memory cell array, the dummy bit lines are disposed at a predetermined pitch.

wherein the dummy bit lines are connected in series.

wherein the timing control circuit controls the timing of the driving operation based on a signal supplied via a dummy bit line with the slowest signal change among the dummy bit lines.

wherein the timing control circuit has a logical arithmetic circuit.

Art Unit: 2827

wherein the timing control circuit controls the timing of the driving operation based on a potential difference between a potential of the dummy bit lines and a reference potential.

the dummy memory cells being selected in descending order of a distance in the dummy bit lines from the timing control circuit.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huan Hoang whose telephone number is (571) 272-1779. The examiner can normally be reached on Mon-Fri 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoai Ho can be reached on (571) 272-1777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Huan Hoang  
Primary Examiner  
Art Unit 2827

HH  
5/30/05.